Lat 40.57853 Lon -121.09832

Forest Health Protection
Pacific Southwest Region

Date: January 18, 2006
File Code: 3420

To: District Ranger, Eagle Lake Ranger District, Lassen National Forest

Subject: Evaluation of Pine Creek Aspen Stand (FHP Report NE06-02)

At the request of Bobette Jones, ecologist for the Eagle Lake RD, I conducted a field evaluation of a small aspen stand along Pine Creek on September 2, 2005. The objective of the visit was to identify the cause of leaf, shoot and leader dieback on aspen (*Populus tremuloides*) regeneration and to provide recommendations as appropriate. Coye Robbins, wildlife biologist for the Almanor RD, accompanied us in the field.

Background

The aspen stand is located along Pine Creek upstream from FS Road 32N22 about a mile west of the Bogard Campground on the Eagle Lake RD. The elevation of the site is approximately 6,000 feet with precipitation averaging around 30-35 inches per year. In the absence of fire, the surrounding mixed conifer stand, consisting mostly lodgepole pine (*Pinus contorta*) and white fir (*Abies concolor*), has encroached into the aspen stand. The aspen in the stand consists of scattered and suppressed regeneration and a few declining mature stems.

Observations and Discussion

Many of the aspen suckers in this stand had leaves infected with *Uncinula adunca*, one of the fungi that cause powdery mildew (Figure 1). This disease does not typically kill the host but heavy infection can affect the general health and render trees susceptible to other diseases and/or insects. There is no direct treatment recommended in natural stands.

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The disease affecting the leaders is likely *Venturia macularis*, or leaf and twig blight ("shepherd's crook") (Figure 2). This disease usually attacks the young shoots on smaller trees causing blackening and wilting of twigs and foliage. Again, there is no direct treatment recommended in natural stands.

Figure 1. Powdery mildew on aspen leaf

Figure 2. Dead shoot tips, "shepherd's crook"

These two diseases are generally always present at low levels within a given aspen stand but the unusually wet spring of 2005 allowed them to become more prevalent. Heavily shaded stand conditions could also be contributing to a favorable micro climate for both of these diseases. If favorable conditions persist, some mortality of individual stems may occur as a result of repeated infections.

Conifer encroachment, according to the Eagle Lake Ranger District's recent aspen survey, is the primary cause for the declining health of aspen stands and suppressed regeneration of aspen in the Pine Creek drainage. This lack of successful regeneration will lead to further reductions of aspen within the area, leading to a loss in biodiversity as well as aesthetic/visual qualities. To increase successful aspen regeneration, and to maintain this species as an ecosystem component, it is recommended that all existing aspen stands that are listed as a high priority for restoration, based on the results of ground surveys, be treated as per District recommendations. Depending on the condition of the stand, treatments may include conifer removal, prescribed fire and/or fencing. Other aspen stands in the area that have had encroaching conifers removed responded with an increase in the number of aspen suckers and accelerated growth of existing stems. Negative impacts caused by insects and diseases will be minimal when aspen are growing under healthy and vigorous stand conditions.

If you have any questions regarding this report and/or need additional information please contact us at 530-251-2151

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